

REMARKS

Claims 1-32 have been examined and are all the claims pending in the application.

Applicant extends much appreciation to Examiner Stewart for conducting an interview with Applicant's representative on February 12, 2003. Applicant also appreciates Examiner Stewart's efforts to advance the prosecution of Applicant's application by conducting an updated prior art search.

Applicant respectfully requests that the Examiner review and accept the original drawings filed on July 2, 2001 and indicate such acceptance to Applicant in the next Office communication. Also, Applicant respectfully requests that the Examiner consider all the references cited in PTO Form 1449, submitted with Applicant's Information Disclosure Statement filed on September 10, 2002.

This Amendment is believed to be fully responsive to each point of rejection raised by the Examiner in the non-final Office action, paper number 8, dated October 24, 2002. Accordingly, Applicant respectfully requests favorable reconsideration and allowance of the pending claims.

Rejection of Claims 1-8, 10, 18, 20 and 21

The Examiner has rejected claims 1-8, 10, 18, 20 and 21 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 5,777,646 (Barinaga), in view of U.S. Patent No. 6,375,301 B1 (hereinafter Childers). Applicant respectfully traverses this rejection.

With respect to claim 1, the Examiner alleges that Barinaga discloses a maintenance cartridge, citing to Figure 8. Applicant respectfully disagrees.

Col. 1, lines 6-52 of Barinaga describes various types of ink supplies (e.g. ink pens, stationary ink supplies and replaceable ink reservoirs). (Description of Related Art). Barinaga describes that replaceable ink reservoirs often contain plastic bags filled with ink that are susceptible to burst or leak at the coupling between the bag and the printer while under pressure. *Id.*

Accordingly, Barinaga describes a replaceable ink supply that addresses the problem of leakage. (Summary of the Invention). Col. 3, lines 3-22 of Barinaga describes that an ink supply 20 is inserted into a docking bay 38 whereby an actuator 40 causes a pump 26 to draw ink from a reservoir 24 to a printer.

The ink supply 20 of Barinaga fails to correspond to the claimed maintenance cartridge. Applicant's specification discloses in an illustrative, non-limiting way and those skilled in the art would understand that the maintenance cartridge of claim 1 is used during shipment of a recording apparatus or before an ink cartridge is mounted in order to prevent ink from evaporating. (See page 6, lines 6-21 and page 7, lines 2-14). Additionally, claim 1 includes limitations that make clear that the ink supply 20 described in Barinaga fails to teach, suggest, or correspond to the claimed maintenance cartridge.

For example, claim 1 recites “[a] maintenance cartridge for a recording apparatus *to which an ink cartridge is to be mounted*”; “a main body mountable to the recording apparatus *at least at a same position as a position, at which the ink cartridge is to be mounted to the*

recording apparatus"; and "at least one plug element, *provided in a region corresponding to an ink supply port of the ink cartridge, for sealing an ink supply needle.*" (Emphasis added).

When viewing claim 1 as a whole, it is clear that the maintenance cartridge is not an ink cartridge. Further, it is clear that the plug element is not sealing the ink supply needle in order to supply ink or fluid to the ink jet recording head.

One skilled in the art would not interpret the ink supply 20 of Barinaga as a maintenance cartridge but rather an ink cartridge. Accordingly, the allegedly corresponding shell 30 and plug 54 of the ink supply 20 of Barinaga that the Examiner alleges corresponds to the main body and plug element of the maintenance cartridge of claim 1 are equally inapplicable.

For at least these reasons, Barinaga fails to teach or suggest the maintenance cartridge of claim 1.

Notwithstanding the above, Applicant has amended claim 1. Applicant submits that this amendment is not done for reasons of patentability but is done solely for the purpose of expediting the prosecution of this application.

The maintenance cartridge of claim 1 now recites that the maintenance cartridge is a dummy cartridge that does not hold fluid or supply fluid to the recording apparatus.

The allegedly corresponding ink supply of Barinaga fails to teach, suggest or correspond to the maintenance cartridge of claim 1.

Applicant respectfully notes that the Examiner alleges that Barinaga "does not disclose an outward form by which a detection system of a recording apparatus can identify the maintenance

cartridge, wherein the outward form distinguishes the maintenance cartridge from an ink cartridge.” (Page 3, lines 1-3 of the Office action). However, the limitation recited by the Examiner is not contained in claims 1-8, 10, 18, 20 or 21. Rather, the above-mentioned limitation tracks the language of independent claim 9.

Applicant is assuming that the rejection of claims 1-8, 10, 18, 20 or 21 does not rely on the teachings of Childers. Accordingly, Applicant’s response does not address the teachings of Childers as applied against claims 1-8, 10, 18, 20 or 21. Nonetheless, for reasons analogous to those presented above with respect to claim 1 and Barinaga, Childers fails to suggest a maintenance cartridge. Barinaga and Childers, individually or in combination, fail to teach or suggest the maintenance cartridge of claim 1.

Accordingly, for at least the reasons presented above, Applicant respectfully requests that the rejection of claim 1 be withdrawn. Claims 2-8, 10, 18, 20 and 21 should be patentable at least by virtue of their dependency on claim 1, as well as reciting their own patentably distinct features.

Rejection of Claims 9, 11, 12-17, 22-31 and 32

The Examiner has rejected claims 9, 11, 12-17, 22-31 and 32 as allegedly being unpatentable over Barinaga in view of Childers. Applicant respectfully traverses this rejection.

With respect to claim 9, Barinaga and Childers, individually or in combination, fail to teach or suggest a maintenance cartridge, for at least the reasons presented above with respect to claim 1.

Additionally, the Examiner alleges that Childers discloses the claimed outward form of the maintenance cartridge by which a detection system can distinguish the maintenance cartridge from an ink cartridge, citing to Figure 2 and col. 3, lines 14-23 of Childers. Applicant respectfully disagrees.

Figure 2 illustrates and col. 3, lines 31-32 of Childers describes that the “[I]nk cartridge 24 is identical in structure to flush cartridge 14.” Therefore, the flush cartridge 14 of Childers, which the Examiner alleges corresponds to the maintenance cartridge of claim 9, fails to meet the above-mentioned limitation.

Additionally, the host processor 10 of Childers does not distinguish the allegedly corresponding new ink cartridge 24 from the allegedly corresponding flush cartridge 14 based on an outward form of the flush cartridge 14. Rather, the “host processor alerts the user to the fact that the ink in cartridge 24 is an incompatible variety.” (Col. 4, lines 7-13).

For at least these reasons, Applicant respectfully requests that the rejection of claim 9 under 35 U.S.C. § 103(a) be withdrawn. Claims 22 and 23 should be patentable at least by virtue of their dependency on claim 9, as well as reciting their own patentably distinct features.

Applicant respectfully notes as to the remaining claims rejected, that it is not entirely clear to Applicant which statements set forth on pages 7-8 of the Office action were intended by

the Examiner to address which of the remaining claims (i.e. 11, 12-17, 22-31 and 32).

Accordingly, Applicant respectfully requests that if the Examiner issues another Office action subsequent to this response, that the grounds of rejection identify the claim by number that is being addressed.

With respect to claim 11, Applicant respectfully notes that MPEP §2142 (Legal Concept of Prima Facie Obviousness)(8th Edition) states that the Examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the Examiner does not produce a *prima facie* case, the Applicant is under no obligation to submit evidence of nonobviousness. *Id.*

The Examiner has failed to address all the limitations of claim 11 in the Office action. In particular, the Office action fails to address the claimed control system that executes a substitute printing operation using ink in the ink cartridge or ink cartridges mounted to the recording apparatus.

Notwithstanding the above, Barinaga and Childers, individually or in combination, fail to teach or suggest the ink jet recording apparatus that includes the claimed control system that executes a substitute printing operation using ink in the ink cartridge or ink cartridges mounted to the recording apparatus.

Applicant assumes that the Examiner relates the controlling supply of negative pressure for filling ink into the recording head during the flushing operation described in Childers with the above-mentioned limitation. (Col. 4, lines 23-35). However, this aspect of Childers fails to teach, suggest or correspond to the above-mentioned limitation.

Page 9, line 17 through page 10, line 11 of Applicant's specification discloses an illustrative, non-limiting example of the printing operation executed by the claimed control system. In such a case, the maintenance cartridge of the present invention is mounted in a place where normally an ink cartridge is present. Accordingly, the ink jet recording apparatus of the present invention permits a substitute printing operation using the remaining kinds of ink available from the ink cartridge(s) presently mounted.

The flushing operation of Childers fails to correspond to a "printing operation" because printing is suspended until the allegedly corresponding flush cartridge 14 is replaced with ink cartridge 24 containing a new ink supply. (Col. 3, line 66 - col. 4, line 6). The host processor 10 of Childers fails to perform the claimed functions of the control system of the ink jet recording apparatus of claim 11. The teachings of Childers are inapplicable to this aspect of Applicant's invention.

Applicant has amended claim 11 by changing "a substitute print" to "a substitute printing operation." Applicant submits that this amendment does not narrow the scope of the original claim and is cosmetic in nature.

For at least these reasons, Applicant respectfully requests that the rejection of claim 11 under 35 U.S.C. § 103(a) be withdrawn. Claims 24 and 25 should be patentable at least by virtue of their dependency on claim 11, as well as reciting their own patentably distinct features.

With respect to claim 12, the ink jet recording apparatus includes at least one maintenance cartridge that does not hold fluid or supply fluid to the recording head. Barinaga

and Childers, individually or in combination, fail to teach or suggest these aspects of the ink jet recording apparatus of claim 12.

For at least these reasons, Applicant respectfully requests that the rejection of claim 12 under 35 U.S.C. § 103(a) be withdrawn. Claims 26 and 27 should be patentable at least by virtue of their dependency on claim 12, as well as reciting their own patentably distinct features.

With respect to claim 13, the ink jet recording apparatus includes at least one maintenance cartridge that does not hold fluid or supply fluid to the recording head and seals the ink supply needle and prevents the evaporation of a fluid in a recording head. Barinaga and Childers, individually or in combination, fail to teach or suggest these aspects of the ink jet recording apparatus of claim 13.

For at least these reasons, Applicant respectfully requests that the rejection of claim 13 under 35 U.S.C. § 103(a) be withdrawn. Claims 28 and 29 should be patentable at least by virtue of their dependency on claim 13, as well as reciting their own patentably distinct features.

Claims 14-17 should be patentable at least by virtue of their dependency on the independent claims discussed above.

With respect to claim 30, the maintenance cartridge includes a body that is incapable of holding fluid or supplying fluid to the recording head. Barinaga and Childers, individually or in combination, fail to teach or suggest these aspects of the maintenance cartridge of claim 30.

Amendment Under 37 C.F.R. § 1.111
U.S. Application No. 09/896,116

Attorney Docket No. Q65302
Art Unit 2853

For at least these reasons, Applicant respectfully requests that the rejection of claim 30 under 35 U.S.C. § 103(a) be withdrawn. Claims 31 and 32 should be patentable at least by virtue of their dependency on claim 30, as well as reciting their own patentably distinct features.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

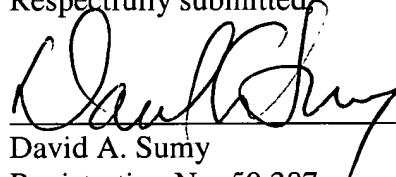


23373

PATENT TRADEMARK OFFICE

Date: March 21, 2003

Respectfully submitted,


David A. Sumy
Registration No. 50,387

APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

1. (Amended) A maintenance cartridge for a recording apparatus to which an ink cartridge is to be mounted, the maintenance cartridge comprising:

a main body mountable to the recording apparatus at least at a same position as a position, at which the ink cartridge is to be mounted to the recording apparatus; and

at least one plug element, provided in a region corresponding to an ink supply port of the ink cartridge, for sealing an ink supply needle that supplies ink to an ink jet recording head

wherein said maintenance cartridge is a dummy cartridge that does not store fluid or supply fluid to the recording apparatus.

11. (Amended) An ink jet recording apparatus adapted to mount at least two ink cartridges having ink supply ports and memory devices, and at least one maintenance cartridge having an outward form the same or substantially the same as the corresponding ink cartridge, a plug element provided in a region corresponding to the ink supply port of the corresponding ink cartridge, and a memory device, the ink jet recording apparatus comprising:

ink supply needles, each being removably attachable to the ink supply port and sealable by the plug element;

an ink jet recording head adapted to be supplied with ink from the ink cartridges through the ink supply ports and the ink supply needles;

a control system adapted to read data from the memory devices of the ink cartridges and the maintenance cartridge to control a recording operation of the apparatus,

wherein when the control system detects, based on the data read from the memory device of the maintenance cartridge, that the maintenance cartridge is attached to the recording apparatus, the control system executes a substitute ~~print~~printing operation using ink in the ink cartridge or ink cartridges mounted to the recording apparatus.

12. (Amended) An ink jet recording apparatus adapted to mount an ink cartridge having at least one ink supply port, the recording apparatus comprising:

at least one ink supply needle corresponding to and removably attachable to the at least one ink supply port;

a recording head adapted to be supplied with ink from the ink cartridge through the at least one ink supply needle and the at least one ink supply port;

at least one maintenance cartridge mounted to the recording apparatus, and provided with at least one plug element corresponding in location to the at least one ink supply port of the ink cartridge, wherein the at least one plug element ~~corresponds to and~~ seals the at least one ink supply needle, wherein the at least one maintenance cartridge does not hold fluid or supply fluid to the recording head.

13. (Amended) An ink jet recording apparatus adapted to mount a plurality of ink cartridges having ink supply ports, the recording apparatus comprising:

ink supply needles corresponding to and removably attachable to the ink supply ports;

a recording head adapted to be supplied with ink from the ink cartridges through the ink supply needles and the ink supply ports;

at least one maintenance cartridge mounted to the recording apparatus, and provided with plug elements corresponding in location to the at the ink supply port of the ink cartridges, wherein the plug elements corresponds to and seal the ink supply needles and prevents the evaporation of a fluid contained in the recording head, wherein the at least one maintenance cartridge does not hold fluid or supply fluid to the recording head.

30. (Amended) A maintenance cartridge for a recording apparatus, comprising:

a body mountable to the recording apparatus at a position at which an ink cartridge is to be mounted to the recording apparatus, wherein the recording apparatus comprises a recording head and an ink supply passage providing a fluid connection to the recording head; and

a plug element that seals the ink supply passage that supplies ink to the recording head

wherein the body is incapable of holding fluid or supplying fluid to the recording head.